

A motor having a magnetic bearing includes a base provided with a bearing seat; a stator fixed to the base; a rotor equipped with a rotation shaft and is able to rotate relative to the stator by magnetic forces generated from excitation; a bearing fastened to the bearing seat of the base for accommodating the rotation shaft of the rotor; and a magnetic unit composed of a first, a second and a third magnetic elements, wherein the second magnetic element is located below the first magnetic element; the third magnetic element is located below the second magnetic element. By employing the magnetic force, the second magnetic element is restrained between the first and third magnetic elements, thereby limiting a shift range of the rotation shaft.